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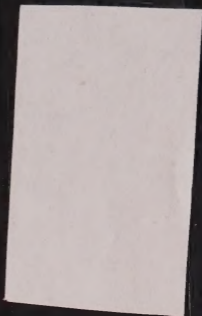
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End bolts of car repair



Ministry of
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the nuts and bolts of car repair



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Ministry of
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For many consumers, buying and maintaining a car has become a major part of their budgets.

If you are a car owner, chances are that your car is not an object of display but an everyday necessity that usually gets you where you want to go.

But this expensive and complex mechanical wonder containing more than 15,000 parts is regularly subjected to extreme temperatures and driving conditions, is usually taken for granted and often neglected.

Like typewriters, bicycles and even your own body, regular maintenance and occasional repairs will keep your car operating smoothly and will help extend its useful life.

This booklet has been prepared to help keep your car repairs, costs and aggravation to a minimum.

Study your owner's manual

We all know that prevention is better than cure. However, most consumers know next to nothing about the mechanics of their motor vehicle. What's under the hood is a mystery: a pile of metal, cables, nuts and bolts that either works or doesn't. Most of the time it works.

To keep it working, routine engine checks are necessary to prevent small problems from developing into major repairs. Instructions in your **owner's manual** help you keep your car in good shape: follow them regularly. The **owner's manual** (usually kept in the glove compartment) is the manufacturer's instruction booklet prepared specifically for your car.

Motorists may be in a hurry, or they may fill up regularly at self-service stations that don't have trained mechanics or staff. As a result, they often neglect to check their batteries, oil, tire pressure, fluid levels and other important areas of maintenance.

Maintenance checklist

If you fall into the above category, you should be prepared to check the following points regularly yourself, or to request this service at full-service stations periodically:

- ☐ motor oil level
- ☐ power steering fluid
- ☐ windshield washer fluid
- ☐ lights and turn signals
- ☐ coolant level in radiator (only when engine is cold)
- ☐ transmission fluid
- ☐ brake and battery fluids
- ☐ battery cables, wiper blades, drive belt and hoses
- ☐ tire pressure (Note: a tire pressure gauge is inexpensive and it's the best investment you can make to extend tire life; underinflated tires can decrease gas mileage.)

In addition, a complete tune-up should be done at least once a year. This includes everything from engine tuneup and tire rotation to checking the suspension, brake and cooling systems. Keeping your car regularly tuned saves both gas mileage and wear and tear on the engine. Engine oil and oil filter should also be changed regularly according to recommendations in the **owner's manual**. Lubrication is usually done at the same time unless otherwise specified by the manufacturer.

Seasonal tune-ups

Ontario winters can be extremely hard on a car. Before the thermometer drops below zero, take advantage of the remaining mild days to condition your car for the cold months ahead. In the spring, make sure you prepare your car for hot weather driving.

Read your **owner's manual** carefully, especially the section on seasonal maintenance. Tire pressure, cooling system care and ignition system maintenance are especially important.

Run the car at various speeds (within the speed limits, of course) to evaluate performance of the steering, brakes, shock absorbers and front-end alignment.

Listen for any unusual engine noises. Look for excessive exhaust smoke: usually,

- blue smoke indicates excessive oil consumption due to worn engine parts;
- black smoke can be caused by a rich mixture of fuel, or a clogged air filter, or an improperly adjusted automatic choke; and
- white smoke could be the result of cooling fluid leaking into the internal engine parts.

With these preparations, you can give the mechanic a much better idea of any problem areas when you take the car in for a seasonal tune-up.

Face the enemies: salt and rust

One major culprit responsible for the rust on your car is salt. Rust will ruthlessly eat through any dirty, unprotected metal area of the car that has been exposed to salted roads.

A combination of damp, cool winters, temperatures hovering around the freezing mark and icy, slushy and salted roads can create serious rust damage that may prematurely end the useful life of a car.

To prevent rust from ruining your car, wash away accumulated salt and dirt at regular intervals during the winter months. Starting with the exterior, clean the underparts of the car thoroughly with, for example, the high pressure nozzle of a garden hose. Pay special attention to the fender walls, the door sills and door bottoms where rust can get a head start.

Make sure the under-door drain openings haven't been clogged with mud or road tar. If clogged, moisture will build up inside the door panels and encourage rust to grow.

Give the car a good wax coating to protect the finish.

Further details on keeping the car as corrosion-free as possible are contained in The Federal/Provincial Anti-Corrosion Code and Owner's Care Guide, available from the Consumer Services Branch, Consumer and Corporate Affairs Canada, Place du Portage, Phase 1, 68 Victoria Street, Hull, Quebec, K1A 0C9.

Repairs

Complaint statistics throughout North America confirm that car repairs are a major area of consumer concern.

Most car warranties now cover one year or 20,000 km; many manufacturers and retailers also sell extended warranties up to three years or 60,000 km. The majority of new cars also offer a three-year perforation (rust-inhibiting) warranty. Sure, we've all heard of 'lemons' but considering the number of automobiles on the road there are relatively few of them.

However, car owners should realize that a car warranty is a two-way street. In order to get protection, the car owner is expected to fulfill certain obligations. Not following the suggestions in the service manual (such as checking the car at regular intervals and changing the oil at suggested mileages) can void the warranty.

Choosing a good repair shop

The better you take care of your car, the longer it will last. Putting off the tune-ups, the oil changes and the winterizing will only lead to earlier problems.

When your car does need repair, shop around for estimates. Consult friends whose judgment you trust. Check out the service department of your car dealership, large service outlets or your neighborhood garage. Do they have qualified mechanics and the tools needed to do the job?

You should be able to trust your mechanic as much as you trust your doctor or dentist. The lowest estimate may not provide the best repair job; find out what a higher estimate includes. Once you've found a reliable, competent mechanic, become a regular customer because he will get to know your car and will be able to locate problems much faster.

Car repair is expensive; labor charges of up to \$30 per hour or more may appear unreasonably high. The mechanic, however, does not take home that kind of money. A fully equipped garage stocks many parts and requires much sophisticated equipment that needs constant upgrading and replacement. That costs a lot of money.

It can be irritating to see that a \$10 part costs \$50 for installation—not realizing that installation may take as long on a \$2 or a \$40 part. But, since most consumers know little about a car engine and its complexities, it's hard to shake the feeling that you've been taken for a ride.

While this can happen, the vast majority of car mechanics are highly skilled and honest. They want repeat business, and the only way to ensure that is to satisfy their customers.

Repair checklist

Most service outlets operate honestly and competently. Unfortunately, some do take advantage of uninformed car owners who don't take certain precautions when dealing with repair facilities. Here is a list to keep in mind:

- **Review the car warranty carefully.** If it still applies, find out who pays for what and whether the repairs must be done at certain outlets. Take your car to the dealer and discuss it with the service person before any work is done.
- **Check the owner's manual.** The solution to the problem might be right there.
- **Be as specific as possible** when describing any problem to the mechanic. Don't be afraid to express yourself: use such words as clang, sputter, ping, crunch, grate, and so on, and remember at what speeds these noises occur. The more you can tell him about the problem, the better he can locate and fix it. Ask questions.
- **Never sign a blank repair order form.** Ask for a written cost estimate before authorizing major repairs and specify that the cost should not exceed this amount without your permission. You should know how much you will pay for parts and how much for labor; most good repair outlets will be able to give you a fairly accurate estimate of the time involved in the repair. Be sure to keep a copy of the estimate.
- **Get full details on repair work warranties.** Ask if the warranty applies to both parts and labor. Find out if there is a restriction on where repairs are to be done.

- **When you authorize repairs**, ask the mechanic to keep any defective parts that are replaced. Inspect these old parts before you pay your bill.
- **Keep your work orders and repair bills:** they become a record of all the work done on your car. This record will help the mechanic diagnose trouble in much the same way a doctor uses your medical file. In a dispute, these records may serve as back-up proof.

Motorists who discuss these points thoroughly before repair work is done will experience fewer surprises and will have less cause for complaints.

The work order

Once you have signed a work order, *you are committed* and the Mechanic's Lien Act allows the repair shop to retain your car, and ultimately sell it, if payment is not made.

You may be legally liable for verbal agreements negotiated on the telephone. Make sure you know who you are talking to and make notes on any variances, which you agree to on the telephone, from the original order you signed.

The work order is your contract with the garage and the mechanic is not obliged to do anything that is not spelled out.

The guarantee

Most shops will offer a warranty on parts and labor for a specified period of time, usually 90 days.

Over and above this, there may be an extended guarantee at additional cost. What you are paying for in this case is not additional repairs or modifications *but a form of insurance*. The guarantee may require periodic inspections and is usually valid only for the current owner of the vehicle. Be sure to read the fine print.

The word "Guaranteed" stamped across a work order is meaningless. Always get in writing exactly what any warranty or guarantee covers.

Transmission repairs: take special precautions

To the non-mechanically minded, a transmission is simply that part of the car attached to the end of the shift lever which makes the vehicle advance when it's put into 'drive' and retreat when shifted to 'reverse'.

To the unscrupulous, this lack of consumer awareness presents considerable potential for profit. So it pays to take extra care both in choosing the repair shop and ensuring that the work is done properly.

If you have a problem

- if your car is still under warranty *call the dealer*. Taking it to a transmission shop could invalidate your new car warranty.
- first check the transmission dipstick. If the fluid level is low, don't drive the car without replenishing. If abnormal conditions continue to exist, driving the vehicle could result in further damage.
- have the car checked at a local garage. A competent mechanic can diagnose and remedy things like fluid leaks and gear shift linkage adjustments.

External factors could make it appear that a transmission malfunction exists when, in actual fact, the problem lies elsewhere. A badly tuned engine can cause abnormal gear changes due to lack of power or a leak in the engine's vacuum system can cause problems.

Specialized repairs

If your mechanic tells you that the problem requires the services of a transmission specialist, you can do some comparison shopping without even the need to take the car in. It may be to your advantage to purchase a rebuilt unit. Make sure the price you are quoted *includes installation*.

Since there are no variables involved in the purchase and installation of a rebuilt unit, the prices you are quoted provide a basis for valid comparison. Now take your car in for diagnosis.

Dealing with the specialist

The key is to *cut through any sales jargon* and find someone technically capable of doing the diagnosis. The best bet is a class A mechanic. A transmission technician may be of assistance; ask about his qualifications and how long he has been in the business.

The diagnosis

- should be performed by a mechanic, not a salesman and you should reasonably expect to pay for it. You should accompany the mechanic on a test drive of the vehicle after describing the problem. It is possible to diagnose the area of malfunction by test driving the vehicle and removing the pan from the bottom of the transmission *without removing or disassembling the actual unit*.
- If the operator is not going to repair the specific malfunction, but is offering you a rebuilt transmission, you already have the price which you were quoted when you did your comparison shopping.
- it may be that you would prefer to have the specific malfunction repaired. In some circumstances, depending on the extent of the damage, this could be less expensive.

Remember you are most vulnerable once the transmission is disassembled into its component parts and scattered over the mechanic's bench. The disassembly and reassembly of a transmission involve a great deal of expensive labor. So unless it's an external repair that doesn't involve the removal of the transmission, or you get a *firm* quote for the repair, you should seriously consider having a rebuilt unit installed.

Transmission terms

Soft parts—the transmission components that deteriorate slowly during the normal operation of the vehicle. Include seals, gaskets, clutch plates and thrust washers. Most transmission problems result from soft part breakdowns.

Hard parts—the components that don't wear and are seldom a problem during the normal operation of the transmission. Include case, gears, shaft, pump and major steel components. Can generally be taken out of other used transmissions or re-machined by a competent mechanic.

Torque converter—fluid coupling that provides a variable gear ratio and is integral to the operation of the transmission. Can be rebuilt and exchange units are available.

New transmission—rarely installed and very expensive. Obtainable under normal circumstances only from the manufacturer.

Rebuilt transmission—a *used* transmission rebuilt to operable condition with components—usually the soft parts and torque converter—replaced. There is no such thing as “rebuilt to original manufacturer's specifications” because there are no universal standards in the repair trade.

The alternatives

There are three alternatives in solving a transmission problem:

1. Repairing the existing transmission—could range from tightening the bolts on the pan and adding transmission fluid to a repair involving removal and disassembly of the transmission. Used parts which still function normally are often satisfactory for repairs, although *this should be reflected in the price*. Discuss this with the mechanic. If disassembly is required, much of the cost will be for labor.

Most damage occurs to the soft parts. If there is hard part damage you must expect to pay more. However, hard part damage occurs in fewer than 10 per cent of damaged transmissions. The garage may obtain used or new parts to effect the repair.

2. A rebuilt transmission involves removing the damaged unit and installing either an exchange transmission, which has previously been rebuilt, or having your own transmission rebuilt. Rebuilding means *restoring a used transmission to maximum efficiency* by replacing a variety of components and checking others to ensure they are in optimum operating condition. Repair means fixing a specific problem.
Having a rebuilt or exchanged transmission installed may be to the customer's advantage as opposed to a repair, but these two options should be discussed with the mechanic. Remember that in either case—repair or rebuild—used parts may be restored or replaced with other used parts. Certain new parts may be required. It is not necessary to replace all the parts.
3. It may be possible to obtain a used transmission from a wrecker if you can find someone to install it. This would probably be the least expensive method, although it leaves you *without* any form of warranty protection. Your own transmission, although inoperative, might have some value as a trade-in if there is no hard part damage.

The quotation

Remember that many repairs can be effected without removing the transmission. If it must be removed, make sure the price includes removal and re-installation.

If you opt for a rebuilt transmission, insist that the final invoice include both the serial number of the transmission which was removed and the one which was installed to ensure:

- a) that you are actually getting a rebuilt transmission; and
- b) that the model you get is the correct one for your specific vehicle.

(Note: Prior to 1968, transmissions on North American cars did not bear serial numbers.)

Help! I've got a problem

So you've taken good care of your car, given it regular checkups, winterized it properly, followed the owner's manual faithfully, chosen your repair outlet carefully, and paid good money for repairs that don't seem to have solved your problem. What can you do?

Consumers who feel they have been misled or deceived may seek help through the Business Practices Act or the Motor Vehicle Dealers' Act, both of which are administered by this ministry.

The Business Practices Act outlines a number of conditions that comprise false, misleading or deceptive consumer representations. For example, it forbids a representation that a service, part, replacement or repair is needed if it is not. It also forbids a representation that the goods are new or unused if they are not.

In addition, the Act defines as unconscionable (unfair or unjust) any misleading statement of opinion upon which consumers are likely to rely to their detriment.

The Motor Vehicle Dealers' Act registers and regulates new and used car dealers and may provide consumers with some assistance if the repair work was done through a car dealership (not through other service outlets).

Complaints concerning car safety should be directed to the Automobile Safety Branch, Transport Canada, Tower C, Place de Ville, Ottawa, Ontario K1A 0N5.

If the repair cost in dispute is under \$1,000 or (\$3,000 in Metro Toronto), you can sue in Small Claims Court. Bringing an action in Small Claims Court is inexpensive and does not require the services of a lawyer.

Important: Common law allows the repair outlet to keep your car if you don't pay the bill. Under the Mechanics' Lien Act the repair outlet has the right to sell your car to recover the cost of the repairs.

Therefore, it is simpler to pay small repair bills in order to recover the car and only then take further action, if necessary. Where larger amounts are involved, however, it is advisable to take your complaints to court and pay the repair bill into Court until the matter is settled.

In this case, consult your lawyer or your local Small Claims Court office.

Consumer Services Bureaus

250 Windsor Avenue, 6th Floor
Windsor, Ontario N9A 6V9
(519) 254-6413

P.O. Box 2112
119 King Street West, 5th Floor
Hamilton, Ontario L8N 3Z9
(416) 521-7554

139 George Street North
Peterborough, Ontario K9J 3G6
(705) 743-8728

199 Larch Street, 5th Floor
Sudbury, Ontario P3E 5P9
(705) 675-4378

P.O. Box 5000
435 James Street South
Thunder Bay, Ontario P7C 5G6
(807) 475-1641

Box 5600, Terminal 'A'
80 Dundas Street East
London, Ontario N6A 2P3
(519) 679-7150

555 Yonge Street
Toronto, Ontario M7A 2H6
(416) 963-0321

1673 Carling Avenue, Suite 102
Ottawa, Ontario K2A 1C4
(613) 725-3679

Be an informed consumer

The consumer ministry has published a number of other booklets covering a range of consumer topics, such as:

- ☐ Credit and you
- ☐ The Consumer Protection Act
- ☐ Home repairs
- ☐ Car repairs
- ☐ Buying a car
- ☐ Buying a home
- ☐ The Ontario Business Practices Act
- ☐ Tricks of the marketplace
- ☐ Refunds and exchanges
- ☐ The Consumer Information Centre

Copies of these publications may be picked up in person at the Consumer Information Centre, 555 Yonge St., Toronto (Telephone 416-963-1111; toll free 1-800-268-1142; TTY/TDD 416-963-0808) or from Consumer Services Bureaus in Hamilton, London, Ottawa, Peterborough, Sudbury, Thunder Bay, Windsor and Toronto.

For direct mail requests, please check the above publication of interest, complete the following form, and mail to:

Consumer Information Centre
Ontario Ministry of Consumer and
Commercial Relations
555 Yonge St.
Toronto, Ont. M7A 2H6

Name: _____

Address: _____
(street & no.) (apt.)

(city) (prov.) (postal code)

We'd like to hear from you.

The consumer ministry welcomes any comments and suggestions on its information materials or programs. In this way we can best respond to your needs in the marketplace.

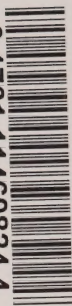


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